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Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules to	)	ET Docket No. 96-102
Provide for Unlicensed NII/SUPERNet	)	RM-8648
Operations in the 5 GHz Frequency Range	)	RM-8653

To: The Commission

JOINT COMMENTS OF EDUCATORS

California State University, Education Network of Maine, University of Maine System, Network for Instructional TV. Inc., San Diego County Superintendent of Schools, South Carolina Budget and Control Board--Office of Information Resource Management, South Carolina Educational Television Commission, and State of Wisconsin--Educational Communications Board (collectively, the "Educators"), submit these Joint Comments in support of the Notice of Proposed Rule Making in ET Docket No. 96-102, FCC 96-193 (released May 6, 1996), relating to amendment of the FCC's Rules to provide for unlicensed NII/SUPERNet Operations in the 5 GHz Frequency Range. The proposal would authorize a new category of unlicensed equipment ("NII/SUPERNet devices") that would provide short-range, high speed wireless digital communications. The FCC anticipates that these devices will support the creation of wireless local area networks ("LANs") and thereby facilitate wireless access to the National Information Infrastructure ("NII").

The Educators are State university systems and telecommunications components thereof, a private non-profit educational entity, and State or local officials or agencies that provide critical educational telecommunications services to learners at the primary, secondary, higher education and continuing/adult education level. They operate numerous public TV stations, Instructional Television Fixed Service ("ITFS") stations, cable TV channels, and an array of microwave, fiber optic and satellite communications facilities. Although diverse in organizational structure and mission, the Educators believe that the Commission should support the development and implementation of wireless LAN facilities, preferably on an unlicensed basis, that can provide a variety of digital communications services (including Internet access, computer networking, and audio and video services) within college or university campuses, school buildings, libraries, hospitals, government buildings and other places of learning and business.

The Educators are currently taking advantage of the NII--which provides a large and ever-increasing range of options--to deliver their services to specific learning sites. They face enormous financial and technical obstacles, however, in distributing their communications services *within* these sites. They anticipate that the development of wireless LAN equipment such as the NII/SUPERNet devices could assist them in closing the "last mile" loop in a cost-effective manner. For this reason, they support the NII/SUPERNet proposal.

To illustrate the internal distribution problem, one of the Educators, San Diego County Superintendent of Schools, recently commissioned a study of the costs of developing school technology systems for the several *hundred* schools within its jurisdiction. The study considered currently available hardwire technology that often requires that the school buildings be re-wired.

The study concluded that the cost of providing a local area network at each individual school site (not including the actual classroom/office/library computers) would range from a low of $20,000 at elementary schools to a high of $120,000 at high schools. The cost of providing a basic broadband cable TV distribution system (again, not including computers and TV sets) at each site would range between $8,000 at elementary schools to as much as $55,000 at high schools. The cost is substantially higher at multiple-building "campuses," which commonly exist in higher education, but also can be found in elementary and secondary education. Thus, in one county alone, the staggering cost of wiring schools would reach well into the tens of millions of dollars. Moreover, these costs do not factor in the technical difficulties and enormous disruption of operations in wiring the buildings, many or most of which were not constructed in a manner that facilitates hard-wiring, or the time required to study, design and implement wiring systems.

If a more affordable and convenient option were to exist for internal distribution of digital communications, the Educators have no doubt that such an option would be embraced by the educational community, thereby truly making possible the extension of the NII into classrooms and other learning sites. The NII/SUPERNet proposal offers the prospect of such an option.

Wireless internal distribution systems could be used for a wide variety of purposes, and the Educators urge the FCC not to foreclose any use that might be technically compatible with the proposed technology. The FCC is well aware of the services to school buildings now provided or contemplated by ITFS, cable systems, telephone networks, microwave and satellite systems, and the like. Hardly a week goes by without the announcement by a cable system, a wireless cable system, a telephone company or a public or public/private entity of its plans to

provide Internet access, data, voice or video services to local schools. Even where these plans are effectuated, the problem is to get these services to the multiple locations within such places so they can be regularly and effectively used by learners, teachers and administrators.

One potentially valuable use of wireless LAN facilities would be Internet access. As noted above, cable TV and telephone commitments to bring Internet access to schools abound. Moreover, the Educators are excited about the prospects of *wireless* distribution of Internet access to schools recently demonstrated by several entities using ITFS frequencies. Wireless LANs could make such access ubiquitous throughout a school building or campus, providing access to any authorized computer within the service area of the equipment.

Other data distribution functions could also be served by wireless LANs. Administrators, teachers and students could gain access to E-Mail, databases, computer-based record keeping, and similar information on an interactive basis using such facilities.

Finally, although further technical development might be necessary for such services to be distributed under an asynchronous packet-based transmission technology, interactive voice and video information could also be distributed by wireless LANs, suggesting the prospect of providing teleconferencing and interactive educational television distribution to classrooms from a point in each building or campus that receives such transmissions via ITFS, cable TV, telephone, fiber, microwave or satellite facilities.

In order to ensure that NII/SUPERNet devices are able most effectively to meet educational needs, the Educators support the FCC's proposal to provide the maximum technical flexibility in their design and operation. Such flexibility would make possible a more rapid incorporation of such devices in schools and other learning sites, and, looking to the future,

would promote new and innovative devices and applications. Such innovative applications might include, for example, distribution of interactive video programming.

The Educators also urge that the Commission deal flexibly with the issue of power limits for NII/SUPERNet devices. The FCC should fully evaluate whether strict power limits or antenna gain restrictions are necessary. Although they recognize that interference is a legitimate concern, the flexibility to use higher powers and antenna gains, if the resulting operations do not in fact cause interference in particular circumstances and there is a requirement to mitigate any interference that is encountered, may be preferable than across the board limitations on power, antenna gain and other technical parameters.

Conclusion

For the foregoing reasons, the Educators support the proposal to authorize NII/SUPERNet devices and urge the FCC to conclude this proceeding favorably.

Respectfully Submitted,

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July 15, 1996